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# USSR Report

## INTERNATIONAL ECONOMIC RELATIONS

(FOUO 1/81)

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## INTERNATIONAL ECONOMIC RELATIONS

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USSR-WORLD TRADE

UDC: 33 (100)

# SOVIET ECONOMIC ASSOCIATION'S TIES WITH FOREIGN COUNTERPARTS

Moscow VESTNIK AKADEMII NAUK SSSR in Russian No 9, 1980 pp 79-84

[Article by A. A. Dynkin, candidate of economic sciences: "The Association of Soviet Scientific Economic Institutions"]

[Text] The Association of Soviet Scientific Economic Institutions (ASENU) was created in 1956 at the initiative of a number of scientific-research economic institutes and economic scholars and in accordance with a resolution issued by the Presidium of the USSR Academy of Sciences. The ASENU includes leading institutes in the field of economics of the USSR Academy of Sciences and the republic academies, scientific-research institutes of the USSR Gosplan, the USSR State Committee for Labor and Social Problems and the USSR State Committee on Prices. Association members also include teams of professors and instructors from the economics department of Moscow State University, the Moscow Institute of Management imeni S. Ordzhonikidze and the Institute of National Economy imeni G. V. Plekhanov.

The main functions of the ASENU are to strengthen ties between Soviet scientific economic institutes and international and national research organizations in the field of economics, and with foreign scientists; to arrange bilateral scientific cooperation with economic societies and associations of other nations; to arrange and carry out activities pertaining to the participation of Soviet economists in international congresses and conferences on the economic sciences, and to conduct such conferences and symposiums in the USSR.

One important area of work for the ASENU has to do with its membership in the International Economic Association (IEA). This international, nongovernmental organization was created in 1950 at the initiative of UNESCO's department of social sciences, and the IEA now includes national economic associations of 51 nations. Since it was founded the IEA has organized and conducted six world economic congresses, the sixth being held in the first part of August 1980, and more than 60 conferences, which contributed to the implementation of the number of joint research programs, to the development of personal contacts and the achievement of better mutual understanding among the economists of various nations. It has also accomplished a great deal with respect to the dissemination of economic information throughout the world.

The success achieved in economic development by the USSR and the other nations of the socialist commonwealth and in the resolution of pressing social problems, the peace-loving foreign policy of the USSR and the intensification and growth of conflicts in the capitalist society are providing an opportunity to increase the influence of scientists from the socialist nations in the work of the IEA. This process is also being furthered by the expansion of IEA membership to include national economic associations of the developing nations--Soviet policy toward "third world" nations is finding support in scientific circles in those nations. The fact that the influence of Soviet economic science is being recognized is demonstrated by the fact that Academician T. S. Khachaturov, chairman of the ASENU, corresponding members of the USSR Academy of Sciences O. T. Bogomolov and K. N. Plotnikov, and corresponding member of the USSR Academy of Sciences V. P. D'yachenko have long served in an active capacity as members and advisers in the governing body of the IEA, its Executive Committee. The opinion of the Soviet representatives has carried great weight in the development of IEA scientific policy and in the selection of subjects for its conferences and meetings. They are the ones who suggested for discussion at international forums of economists such important scientific matters as planning and market relations (Liblice, Czechoslovakia, 1970), long-term planning and forecasting (Moscow, 1972) and "Long-Distance Transport" (Moscow, 1979). The opinion of the Soviet members was also taken into account for deciding on the subject matter for the fifth World Congress of Economists, held in Tokyo in 1977 ("Economic Growth and Resources"), and the sixth Congress, held in Mexico in 1980 ("Human Resources, Employment and Development"). Soviet scientists are elected as chairmen and members of the program committees for conferences, which decide who will be the speakers and on what subjects they will speak.

In their speeches delivered from the rostrum of the IEA and their consistent and persistent adherence to the Marxist-Leninist line in the discussion of theoretical and specific, practical issues Soviet economists counter bourgeois theoreticians, draw the undecided over to their side, support the Marxists and scientists siding with Marxism, and demonstrate the high level of development of Soviet economic science. And this does not go unnoticed. At a conference held in Cambridge, Great Britain, in 1979, for example, IEA President (S. Tsuru) of Japan delivered the commentary on a report made by corresponding member of the USSR Academy of Sciences Ye. I. Kapustin, "Ways and Methods of Developing Joint Consumption in the Socialist Nations." He praised both the scientific level of the report and the effectiveness of methods used by the socialist nations in their social and economic policy. Academician T. S. Khachaturov spoke at the same conference as commentator on and critic of a report delivered by B. Frey of Switzerland on communal choice in joint consumption. At the request of the organizers of the conference and its participants, T. S. Khachaturov delivered a report on the basic principles underlying the improvement of the economic system and trends in the development of planned control of the USSR national economy.

Their participation in international scientific forums is helping scientists of the socialist nations to be more active in the development of Marxist-Leninist political economy and helping them to prove the fallacy of bourgeois concepts. At the fourth and fifth World Congresses of Economists, Marxist-Leninist economic theory clearly prevailed over bourgeois theory, which is experiencing a major

methodological crisis involving, among other things, final recognition of the failure of Keynesian theories underlying state-monopolistic control in the bourgeois political economy.

Another important aspect of this participation lies in the fact that by taking part in IEA activities Soviet specialists gain a first-hand knowledge of the results of the latest economic studies performed abroad, which frequently help us to answer specific economic questions. Information presented at a conference on problems of technological progress, which was held in St. Anton, Austria, in 1971, for example, were of practical value with respect to determining long-range trends in the creation of new technology in the Soviet Union. At a conference in (Valeskyur), France, in 1973 the reports made by representatives of various nations contained a number of interesting ideas on the problems of demography and demographic policy, and the urgent need to resolve these issues was, of course, stressed at the 25th CPSU Congress. At a 1974 conference in Turin, Italy, the Soviet delegates were interested in what the foreign scientists had to say on the development of the nonproduction sector.

The IEA conference on "Long-Distance Transport," held in Moscow in October of 1979, had a great impact. Soon after the signing of the Final Act of the Helsinki Conference on European Security and Cooperation, as we know, Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee, proposed, among other things, that extensive European congresses or international conferences be conducted on cooperation in the area of environmental protection and the development of transport and energy. Acting on these proposals the Soviet delegation at the World Congress of Economists in Tokyo proposed that such a conference be held, and the IEA supported the Soviet initiative. More than 30 leading economists and transportation experts from socialist and capitalist nations took part in the conference. It discussed the optimization and coordination of all types of transport, ways to improve the efficiency of long-distance fuel shipment, problems involved in providing transportation for hard-to-reach areas and optimization of the balance between public and personal transport. The conference brought out various views on these matters and various approaches to them in the socialist and the capitalist nations, acquainted the participants with how certain nations had solved their transport problems and produced certain practical conclusions. It was highly important in that it furthered the Soviet specialists' study of the role of transportation in the realization of economic ties and of foreign experience solving serious problems accompanying the development of transport systems.

The works of Soviet specialists published abroad and presented at international conferences serve as an important means of spreading Soviet economic theory in the capitalist nations. Soviet scholars also do a considerable amount of editorial work on IEA publications. Academician N.P. Fedorenko was the co-editor of works produced at the conference "Planning and Markets" published by McGraw Hill in 1969, for example, and Academician T. S. Khachaturov edited materials published by Macmillan in 1976 on a conference on methods of long-range planning and forecasting.

The Association of Soviet Scientific Economic Institutions is doing a great deal to strengthen bilateral scientific contacts between national economic organizations. Bilateral scientific symposiums are conducted on a regular basis with participation by Soviet scientists and scientists from Poland, Hungary, the United States and Sweden.

The first joint session of the Soviet-Polish Economic Commission was conducted in Jablonna, Poland, in 1975 at the initiative of the USSR Academy of Sciences and the Polish Academy of Sciences. The commission's functions include the organization of discussions on key economic problems, joint research projects, joint scientific publications and mutual exchange of scientific information.

The five meetings already held discussed the main characteristics and criteria for development of the socialist society, forms of socialist ownership, ways to improve management of the national economy, social and economic problems involved in making public production more effective, and the international and internal factors in public economic development. Material coming out of the commission meetings, in which prominent specialists from both nations took part, have been published in a Polish-language collection with the title "Economic Problems of Developed Socialism: Experience of the USSR and Poland" (it will be published in the Russian language in 1980).

Contacts between the ASENU and the Hungarian Economic Association have also become traditional. Between 1973 and the present seven Soviet-Hungarian economic symposiums have been conducted, with most of the programs being composed of two sections: discussion of theoretical issues (intensification of the economy, planning and control of the socialist economy, effectiveness of capital investments, economics of the infrastructure, development of branches producing consumer goods, economics of labor and economics of agriculture) and an explanation of how specific economic decisions have been implemented on the practical level. Among other things, Soviet specialists were interested in the forecasting of consumer goods demand in Hungary, since Hungarian economists have accumulated a great deal of practical and theoretical material on this matter. Forecasting of demand is linked with product quality and with the demands of fashion. There is something to be learned from Hungarian experience with the flexible development of light industry, which has achieved the production of high-quality consumer goods and is moving into international markets. Soviet economists also collected valuable material on the development of state-operated agriculture.

Since 1975 the Association of Soviet Scientific Economic Institutions has conducted bilateral meetings between scientists in cooperation with the American Economic Association. These are held alternately in the USSR and the United States under an agreement on cooperation between the USSR Academy of Sciences and the American Council of Learned Societies. A spirit of cooperation and mutual understanding has characterized all the Soviet-American scientific symposiums held to date. The topics for the symposiums (issues pertaining to the effectiveness of capital investments and Soviet-American economic relations, the economics of scientific and technological progress, management of industrial enterprises and structural advances made in the USSR and the U.S. economies since the war) and the programs for the visiting delegations have been planned with maximum consideration

for the desires of each party. The discussions have brought out basic differences in the formulation of theoretical problems and in the selection of ways to resolve them in the two dissimilar social and economic systems. Certain general problems of a technical organizational nature have also been discussed, problems of considerable interest to scientists and practical workers of both nations. The Americans indicated great interest in the development of bilateral scientific ties.

The Soviet-American symposiums have permitted economists from the two nations to keep each other informed on the results of investigations and their trends and have made it possible thoroughly to study the latest trends in the Soviet and U.S. economies. During these meetings the American scientists have learned about the achievements of Soviet economic science and the nature of the progressive reforms occurring in our nation's national economy and its social sector. Soviet scientists were interested in American research into methods for making decisions in situations of uncertainty and methods for evaluating the effectiveness of management systems, methodological principles for organizing the training and advanced training of key personnel, and so forth.

The meetings between Soviet and American economists have given us the opportunity to gain a fuller understanding of the contemporary economic situation in the United States, to inform the American participants of the position taken by Soviet scientists on various aspects of Soviet-American relations, and to hear opposing opinions. The same holds true for the Americans. For this reason the American Economic Association proposed that bilateral scientific ties be expanded by conducting a joint study into a number of economic problems. The plan and program for the joint research are to be discussed at the forthcoming, regular Soviet-American symposium of economists, to be held in 1981.

In 1978 Moscow's "Progress" publishing house issued a collection of information produced by the Soviet-American symposiums.

Soviet-Swedish symposiums began to be held in 1974 under an agreement between the USSR Academy of Sciences and ASENU, on the one hand, and the Swedish Royal Academy of Sciences and the Federation of Swedish Industry, on the other. They have discussed problems of increasing labor productivity and Soviet-Swedish economic ties, the interdependence between enterprises and other components of the national economy, the effectiveness of capital investments and plan selection, social and economic problems pertaining to use of the work force, and ways and methods of carrying out structural reforms in the national economy of the USSR and the Swedish economy.

In the course of the discussions, especially during the first meetings between the economists, it became clear that the Swedes derive many of their concepts about the Soviet economy from biased information contained in the works of various Sovietologists, who present a false picture of our national economy and our system of managing it. Therefore, when the Soviet scientists spoke they endeavored to dispel the illusions of the Swedish economists with respect to the principles and the specific machinery involved in the planning and management of the national economy under developed socialism, while at the same time attempting to satisfy their interest in Soviet know-how in providing the nation with energy, developing atomic-power engineering and environmental protection.

The Soviet economists, in turn, learned about the work performed by their Swedish colleagues in the macromodeling of the Swedish economy and the forecasting of its development and rates of economic growth according to the age makeup of fixed capital, characteristics of the economic policy followed by Swedish firms in view of the stiff competition by foreign concerns, and so forth.

On the whole the discussions at the symposiums have taken place in a friendly and constructive atmosphere and have demonstrated a desire to gain a better understanding of each other's viewpoints. It should be mentioned that in a large number of areas the Swedish economic school occupies a leading position in bourgeois political economics. A number of reforms, progressive compared with the other nations of Western Europe, have been carried out in the nation's economy (especially during the period of government by the Social Democrats). All of this indicates that it would be beneficial to expand ties between economists of the USSR and Sweden. The next Soviet-Swedish symposium on economic problems of scientific and technological progress is planned for October of 1980.

At the last symposium, held in Stockholm in 1979, the Swedish scientists stated that the discussions and the exchange of opinions with their Soviet colleagues stimulate them in their creative investigation and stated that they must constantly study the position of Soviet economists in both the theoretical aspects of economic science and on the practical level for the purpose of seeking specific ways to resolve the Swedish economy's acute problems and to achieve better mutual understanding between scientists of the two nations.

In 1981 the Association of Soviet Scientific Economic Institutions will have been in existence a quarter of a century. The international prestige of Soviet economic science has grown immeasurably during this time. Leading economists of the socialist and the capitalist nations are expressing growing interest in expanding cooperation with their Soviet colleagues. The activities of the ASENU are definitely helping to develop and strengthen the international scientific contacts of Soviet scholars-and-social scientists.



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USSR WORLD TRADE

UK CORRESPONDENTS DESCRIBE USSR GOLD LINKS WITH WEST

LD311315 London FINANCIAL TIMES in English 31 Mar 81 p 18

[Article by David Marsh in London, Bernard Simon in Johannesburg: "Russia's Discreet Gold Chain"]

[Text] Rising East-West tension over Afghanistan and Poland has given the Kremlin a glittering windfall by helping push up the price of gold and other precious metals which Russia sells to the West.

But as the stakes climb both on the bullion market and in the international political arena, Moscow's links with the West over the mining and trading of the world's most capitalist metal are becoming ever more intricate.

Evidence is growing of discreet contacts and an increasing common interest with a country officially reviled by the Kremlin--South Africa, the world's number one gold producer.

The two countries, which mine about 75 percent of the world's gold and also dominate production of diamonds and strategically-important metals like chrome and platinum, already maintain links over sales of minerals to Western markets.

At the moment, co-ordination amounts to little more than the passing of information about sales policies, and the two sides still appear deeply suspicious of each other.

But it is possible that the two countries could eventually extend co-operation to exchanges of mining expertise and metals technology.

This is an area where the Russians still have a lot to learn from the West in their efforts to develop the enormous mineral wealth of Siberia and Central Asia--and where collaboration with the U.S. and possibly Europe, too, may become more difficult if detente flags.

Significantly, it is also a sector where the Russians themselves have developed technological expertise of interest to the South Africans.

The two countries maintain no formal diplomatic or trade ties, so direct government-to-government contacts are impossible. But through various channels Russia has forged contacts with the Anglo American Corporation, the giant South African mining empire which has trading and mining connections throughout the world.

Companies in the Anglo American group account for one quarter of gold output of the non-communist world, while its sister company, De Beers Consolidated Mines, dominates international diamond production.

Mr. Harry Oppenheimer, the chairman of Anglo American and De Beers, has the advantageous credentials, from the Russian point of view, of being an implacable opponent of apartheid. But he is still widely regarded as the most important industrial figure in a country which relied on gold last year for more than 50 per cent of its total exports.

The two sides have been putting out feelers over mining and metallurgy at a time when both have been holding back the volume of bullion sent to world markets in an effort to support the price.

The South African and Soviet governments are both firm believers in a strong monetary role for gold. The ruble is still formally backed by the Soviet State Bank's reserves of the yellow metal. And both countries have been rewarded by the sight of gold price shooting up to an average price of over $600 per ounce last year.

Although it is now down to around $530 per ounce, more than $300 below the short-lived peak in January, 1980 immediately after Russia's invasion of Afghanistan, the price is still more than double the end-1978 level, providing an important boost to both economies.

The Soviet Union, always an enigmatic operator on world gold markets, has become even more mysterious by taking greater efforts to hide the methods with which it channels metal to the West. It has also added to the puzzle by cutting back supplies at the same time as making large purchases on a number of other metal markets. Metal dealers believe the Soviets may be increasing consumption of metals like cobalt, titanium and tungsten for military purposes.

The Soviet Union has always strongly denied any suggestion of collusion with South Africa over mineral sales. In November, the government newspaper IZVESTIYA said stories about South African links in the FINANCIAL TIMES and other newspapers were reminiscent of the propaganda methods of Dr. Goebbels.

Russia has always, however, been willing to compromise its ideological principles. Lenin wrote in 1921 that gold would eventually be used to line public lavatories. But pending the final socialist victory, Russia would have to exploit the capitalist system to get the best price for its gold. "When you live among wolves you must howl like a wolf," he said.

It has been an open secret for years that the Russians have been co-operating with De Beers in diamond marketing. Rough diamonds from Moscow are passed through a small London company to De Beer's central selling organisation, which distributes them through its normal London sales.

South African and Russian platinum producers meet regularly in the offices of precious metals traders in London and at the annual platinum industry dinner at the Savoy Hotel. In the words of one senior executive of a South African platinum mining company, "Each of us tries to find out as much as possible from the other while giving nothing away ourselves."

Suspicions that platinum cooperation might go a little deeper were strengthened last November when Mr. Gordon Waddell, an executive director of Anglo American, was spotted with Soviet officials in Moscow. He was watching the opera "Boris Godunov" at the Bolshoy Theatre.

Mr. Waddell, who has since become chairman of Johannesburg Consolidate Investment, the major shareholder in the world's largest platinum mine, told the reporter who saw him that he was just "passing through."

Shortly before, in September last year, Mr. Michael Beckett, an executive director of Consolidated Gold Fields, the London Mining Finance House 29 per cent owned by the Anglo American-De Beers group, visited Moscow with two other Consgold executives.

The prime purpose of the visit, hosted by the Soviet Foreign Trade Bank, which controls Russia's gold exports, was to allow the Consgold team to build up information on Soviet gold activities for use in the company's bullion surveys.

Consgold believes, however, that the relationship could eventually broaden out to exchanges of view on mining techniques and metallurgy.

This could include the question of some kind of joint mining venture--although any deal would certainly be years off. Consgold which held a stake in a Russian gold mine before the 1917 revolution, makes clear that at the moment it has a lot of other international mining projects under consideration.

Consgold maintains that Anglo American's shareholding, most of which was built up just over a year ago, is purely an investment stake. In Johannesburg, however, suspicions that Anglo American is flexing its muscles have been aroused at gold fields of South Africa, 46 per cent owned by Consgold. Gold fields executives are reported to be annoyed that their office memos are being circulated and discussed at the Anglo American headquarters.

Consgold itself has underlined the principal reason why the Russians are interested in mining co-operation with the West. Last year the company drastically lowered its estimate of Soviet annual gold production to around 300 tons. Previous estimates of over 400 tons had been based on over-generous assumptions of the efficiency of Russian equipment.

The experience of the British mining company, Rio Tinto-Zinc, shows that any talks with the Russians on mining ventures would be long and hard. Before the talks broke off in 1973, Rio Tinto spent years negotiating with the Soviet Union over a project to exploit the huge Udokan copper deposits in Siberia.

One stumbling block was that Soviet law forbids shareholdings by Western companies in joint ventures: Rio Tinto wanted more than just a contract to manage the mine.

The Soviet Union already relies on the West for supplies of heavy bulldozing and earth-moving equipment for use in its large open-pit gold and diamond mines.

U.S. companies like International Harvester and Caterpillar head the list of suppliers, although a large amount of equipment comes through Finland.

Consgold underlines the fact that co-operation might not be a one-way street. The Soviet Union might itself be able to offer technology to the West.

This is in fact already happening. Gold Fields of South Africa is one of a string of companies interested in buying Russia's Kivcet lead smelting process--reputed to be one of the best in the world--for use at the Black Mountain lead/silver mine in the N.W. Cape. A decision on the smelter is expected within two years.

The Black Mountain mine is being run jointly with Phelps Dodge, the U.S. mining company, with finance for the lead smelter possibly coming from South African Government's Industrial Development Corporation.

Talks on the smelter project are taking place with the West German engineering company Kldeckner-Humboldt-Deutz, which has close contacts with the Russians and is handling licensing arrangements for the Soviet process in the West. Significantly, Anglo American itself made contact with KHD two years ago to express interest in the process.

Other companies interested in acquiring the technology include Cominco in Canada, Amax in the U.S., Preussag in West Germany and Broken Hill Associated Smelters in Australia.

South Africa might also have something to learn from Russia in the art of gold marketing. The Soviets have become "very shrewd and business-like" says Herr Hubert Baschnagel, executive board member responsible for gold and currency trading at Swiss Bank Corporation.

Other bankers, says the Zurich-based Wozchod Handelsbank, the Soviet-owned trading bank which carries out Russian gold sales, has become a slick and profitable dealing operating buying and selling gold in London, Zurich and the Far East.

By contrast, the South African Reserve Bank, which handles Pretoria's gold marketing, is a great deal less sophisticated. Although last year it started a new "flexible" policy of holding back part of its production from the European markets.

The South Africans and Russians keep in touch largely through the bullion dealers in the trading centres of London, Zurich and Frankfurt, according to one West German dealer.

Representatives of Russian banks also use personal contacts with market participants --including some with South African connections--to keep fully abreast of gold developments.

Russian sales to the West are thought to have fallen to 80 to 100 tons last year from over 200 tons in 1979. The two years' sales would each however have netted around the same amount of foreign exchange because of the 1980 price surge.

So far this year the Soviet Union seems to have made no significant sales through its main outlet, Zurich. Dealers believe that it is holding out for higher prices, and is keen to build up gold reserves diminished by heavy selling earlier in the 1970s.

CSO: 1812/26

USSR-CEMA TRADE

EAST EUROPEAN CEMA MEMBERS ENERGY PROBLEMS ANALYZED

Moscow VOPROSY EKONOMIKI in Russian No 12, Dec 80 pp 97-103

[Article by Vladimir Mikhaylovich Gzovskiy, candidate of economic sciences, junior staff scientist of IEMSS AN SSSR (Institute of the Economics of the World Socialist System of the USSR Academy of Sciences): "Conservation of Energy Resources in the CEMA Countries"]

[Text] Supplying fuel and energy for the economy of the CEMA countries is now one of the most urgent problems in economic development. A long-range target program for raw materials, fuel and energy, aimed at further expansion and improvement of the country's cooperation in production and consumption of energy and raw material resources, was adopted at the 32d CEMA Session (1978) in order to solve it.

The long-range strategy for development of the fuel and energy industry of the CEMA countries provides, first, for ever fuller exploitation of domestic energy resources; second, for more extensive international division of labor to meet the needs of the CEMA countries for energy sources, and third, for increasing the efficiency of use (conservation) of fuel and energy.

The policy of energy conservation, taken in the broad sense, includes the following principal directions in various spheres of economic activity:

i. at the macroeconomic level--restructuring the sectoral pattern of production toward less energy-intensive sectors will help to reduce energy consumption in the economy;

ii. at the microeconomic level--introduction of new energy-saving technology (including a restructuring of energy consumption toward inorganic resources, above all toward fissionable elements) and encouragement of more optimum energy consumption in production through improvement of economic activity;

iii. in the sphere of residential consumption--optimization of energy use in the household and instilling in the population a thrifty attitude toward fuel and energy.

The trend toward a shortage of fuel and energy resources which is now typical of all the socialist countries has become evident earlier and more intensely in the

European CEMA countries than in the USSR because their natural potential is limited. In time the problems they now face in the field of energy conservation will evidently arise in some form and some degree in the USSR as well; even now much attention is being paid to them in our country. From the standpoint of prospects for development of the USSR's fuel and energy complex, then, there is considerable interest in summarizing the experience of energy conservation policy in the CEMA countries and in evaluating the measures being implemented under that policy.

We should note that the experience of the CEMA countries in the field of energy conservation is just now taking shape, since the countries began comparatively recently to react to the increasingly intense imbalance in the sphere of energy consumption. Until recently energy-saving measures were regarded as only one of the many ways of reducing production costs. While that purpose is still served, conservation is now becoming a means of obtaining amounts of energy crucial to achievement of projected growth rates of production, that is, it is becoming not only something to be wished, but an urgent necessity.

There are a number of reasons for this new role of energy conservation. First of all, not every CEMA country is able to meet growing needs for energy from domestic resources. For instance, in Czechoslovakia and GDR feasible (balansovyye) reserves of brown coal and lignite--the resources which are the basis for further development of the fuel and power industry and the chemical industry--will last 50-70 years at the present rate of mining. Theoretically it is possible to increase the annual level of mining in those countries, but taking advantage of that opportunity would result in considerably faster exhaustion of those reserves. An analogous situation is taking shape in a number of other CEMA countries with respect to one or another form of energy. In Hungary, for example, petroleum and gas reserves are sufficient for 15-20 years. Taking into account future needs of the economy for energy and raw materials, then, many European CEMA countries have in recent years been stabilizing or even reducing growth rates, and sometimes they have even been reducing the absolute annual volume of extraction of certain primary energy resources. This tendency has been observed with respect to petroleum in Hungary and Romania, with respect to brown coal in Bulgaria, Hungary, GDR and Czechoslovakia, with respect to gas in Bulgaria and Romania, etc. It is this tendency which motivated the CEMA countries to undertake conservation not only of imported sources of energy, but domestic ones as well.

Moreover, expansion of [a country's] energy base involves growing specific capital investments because conditions for extraction are less favorable. In the 1971-1978 period the costs of mining coal in Poland doubled per ton of standard fuel; in Czechoslovakia it cost 60 percent more to produce a ton of coal in this 5-year period than in the last one, and so on. In certain cases the higher costs made it necessary to increase capital investments above the amount envisaged by the plan.[1]

Socialist economic integration is making it possible for the CEMA countries to solve the problem of energy sources through cooperation in this field, through joint capital investments in the extractive industries, and through mutual deliveries of energy. The USSR has the leading role in this process.[2] At the same time the costs of extracting and shipping fuels are rising in our country, it is becoming increasingly problematical for the extractive industries of the USSR to make

provision for larger exports of fuels. It is evident that in future the relative share of the energy needs which the foreign countries of CEMA satisfy through imports from third countries could increase. But these possibilities are also limited because the terms of trade are worsening on the world market for countries importing fuel and energy.

It should also be borne in mind that aside from developing national fuel and power industries, the CEMA countries also face other equally important socioeconomic problems urgently in need of solution. Expansion of export industries, which are called upon to cover the costs of the increasing importation of fuels, the need for further development of the industrial infrastructure, housing construction programs, the food problem and other lines of economic activity require large investment funds. A further increase in the relative share of the capital investments the CEMA countries are now making in the fuel and power industry could have an effect on the solving of these problems.

The CEMA countries now face the task of preventing the rise of capital investments in the fuel and power industries from increasing faster than those in other industries. If this is to be done successfully, the amount of energy "not taken" because the share of capital investments in the fuel and power industry has been held stable will unfailingly have to be provided through energy conservation. This conception was reflected in the decree of the GDR Council of Ministers on measures concerning optimum use and conservation of heat, electric power and fuels, which was adopted in 1979. Under this decree the principal goal of energy conservation measures in the GDR is to prevent capital investments in the fuel and power industry from exceeding one-third of investments in the industrial sector, that is, the proportion which has now been attained. This approach, in our view, is outstanding for its constructiveness and is promising from the standpoint of long-range planning. It reflects one of the requirements of present-day energy conservation policy, a requirement which is to be met at the macroeconomic level and is aimed at reducing the relative share of energy-intensive industries in the sectoral pattern of production.[3]

The most energy-intensive industries in the CEMA countries include metallurgy, the fuel and power industry, the chemical industry and the building materials industry. In terms of inputs of energy carriers per unit output the fuel and power industry in the CEMA countries as a rule exceeds the industrial sector as a whole 15-20-fold, ferrous metallurgy 2.3-3.5-fold, the building materials industry 2-4-fold, and so on. It is sufficient to state that these four industries consume, for example, 70 percent of all the energy consumed in the industrial sector in Poland and 74 percent in Romania. It would seem at first that the simplest way of reducing the energy intensiveness of the industrial sector would be to reduce the growth rates of these industries and correspondingly their share in production. But these industries play such a substantial role in the economic development of the CEMA countries that at the present time the trend is in the opposite direction: the growth rates of these industries are as a rule higher in many CEMA countries than the average for the industrial sector as a whole, especially because of the accelerated development of the chemical industry and the fuel and power industry. Nor do we observe a drop in the share of sources of energy consumed in metallurgy, the fuel and power industry, the chemical industry and the building materials industry.

Thus the most realistic ways of reducing energy consumption by the energy-intensive industries in the CEMA countries are not seen to be reducing the growth rates of these industries as a whole, but, first, utilizing potential for improvement of their intrasector pattern, and second, industrial application of more economical manufacturing processes, machines and equipment, use of substitute materials, utilization of secondary resources, and so on.

Large opportunities for conservation lie in restructuring the fuel and power industry of the CEMA countries, above all by speeding up construction of nuclear power plants. In accordance with the Agreement on Industrial Specialization and Cooperation and Mutual Deliveries of Equipment for Nuclear Power Plants in the 1981-1990 Period, which was signed at the 33d CEMA Session, it is assumed that by the end of this period the total capacity of nuclear power plants in the European foreign countries of the CEMA, together with Cuba, will be 37 million kilowatts, which will afford an annual saving of organic fuel amounting to approximately 75 million tons of standard fuel.

Still greater significance is being attributed in the CEMA countries to modernization of energy-intensive manufacturing processes. Though such a policy necessitates sizable investments (comparable in scale to the capital investments necessary to increase extraction of the fuels in the CEMA countries), its implementation is still more advantageous, since it makes it possible to achieve, first, a sizable saving of energy, and second, a rise in labor productivity and production efficiency, which is being held back at present by the high proportion of outdated equipment. In Romania, for example, it is assumed that modernization will in future reduce energy consumption 25 percent in cement production, 15 percent in petroleum refining, 65 percent in the refining of aluminum, and so on. In GDR great efforts are being aimed at increasing the refining of secondary raw materials. In 1980 the plan calls for their share to reach 10 percent of all raw materials used in the economy. Improvement of machines and equipment is also taking place in other economic sectors of the CEMA countries. For instance, in Hungary, Bulgaria and Poland trucks and buses are now being converted to diesel fuel, power transmission lines are being modernized to reduce losses, etc.

Now that the energy made available through conservation is a part of planned energy consumption, and not an amount over and above the plan, it is becoming very important to link the reference figures of energy conservation programs to planning targets for energy production.[4]

Experience demonstrates that energy conservation programs adopted previously in the CEMA countries were often not carried out. For instance, in Poland "programs projecting rising energy needs turned out to be inaccurate, especially in the light of the excessively slow progress in energy conservation";[5] in the 1976-1979 period the program for optimum consumption of fuel and energy in Czechoslovakia was not altogether carried out, etc. In the new context nonfulfillment of the energy conservation plan and inaccuracies in planning this process (for example, overly optimistic anticipated results) are extremely undesirable, because this will have a direct impact on fulfillment of production plans in industries consuming energy.

One of the conditions necessary to successful fulfillment of energy conservation plans is that the relevant programs be capable of detailed elaboration, that they be broken down to the level of enterprises, and that they be strictly monitored. This can be illustrated by the experience of the GDR, where targets for energy conservation have in recent years been fulfilled and overfulfilled (specific energy consumption has been dropping in the country at an annual average rate of approximately 3-4 percent for the entire economy). Assignments for energy conservation in the 5-year period now coming to an end, which were reflected in the materials of the Ninth Congress of the Socialist Unity Party of Germany, were straightforward, detailed and binding and specifically indicated the conservation measures and size of the saving for each sector and industry. In GDR fulfillment of conservation targets is monitored not only by specialized agencies (worker-peasant inspectorates), but also by people's inspectors and activists. For instance, in late 1979 and early 1980 190,000 voluntary inspectors took part in the large-scale check on fulfillment of the target for energy conservation.

At the same time experience in carrying out energy conservation programs in the CEMA countries indicates that substantial organizational difficulties are involved in their fulfillment. It is now taken for granted that the saving of any amount of energy is equivalent to obtaining it for considerably smaller outlays of capital investments and considerably less manpower, since this eliminates the need for geological explorations, for development of deposits, for transportation, etc.[6]

But the question is the source of the funds for these more efficient investments. It is highly problematical to take them in any great extent from the funds scheduled for development of the fuel and power industries of the CEMA countries, since the rising capital intensiveness of domestic energy resources has made the situation with investments in these industries rather strained even at low growth rates of production. Since there is a shortage of reserve capital, priority is being given in the CEMA countries to those energy conservation measures which are aimed at identifying potential for conservation that does not require capital investment nor large outlays, that is, measures of an organizational nature.

It cannot but be taken into account in this connection that if the number of industries engaged in obtaining and transforming sources of energy is limited, all spheres of economic activity, without exception, are involved in the consumption of energy. In practice, then, the lower capital intensiveness of the energy resulting from conservation is achieved through a very substantial increase in the complexity of the organizational aspect of the matter, especially in those cases when conservation policy is based on purely administrative measures. As a rule these measures are effective for relatively short periods of time after their adoption, they require constant "pressure" on the part of central economic authorities, and often they are simply ignored by enterprise managers. For instance, in GDR the large-scale check we have mentioned, which was conducted at one-third of the enterprises, revealed serious violations of the prescribed conditions for fuel use, though under regulations now in effect in the GDR, an enterprise that exceeds the assigned allowance for energy consumption is subject to a fine for overconsumption in the amount of tenfold the amount of overconsumption.

Measures in the conservation field based on the use of administrative levers, that is, on adoption of allowances and restrictions on energy and fuel consumption, along with a corresponding system of fines for violating them, represent the initial stage of long-range conservation programs and make it possible to identify the "upper strata" of the reserves that exist in this field. Government decrees used as the basis for such measures were adopted in Bulgaria, GDR, Poland, Romania, and Czechoslovakia in 1979 and in Hungary in 1980. They call for reduction of standard rates of consumption of fuel, electric power and heat at enterprises and in institutions; for retirement from use of outdated transportation equipment with high fuel consumption; for introduction of limits on filling the tanks of government motor vehicles and for reducing their total number;[7] for restriction on traffic movement from region to region, etc.

The next and qualitatively higher stage of energy conservation policy is an improvement of planning, management and the economic mechanism that will provide instruments for reducing the energy intensiveness of production that will retain their effectiveness and conform to a socialist economy. In the CEMA countries growing attention is now being paid to developing and adopting new instruments of this kind to encourage energy-saving economic activity.

For instance, under the Czechoslovak energy program the energy intensiveness of capital construction projects is to be regarded as one of the most important criteria in planning investment projects. In the GDR energy consumption has been adopted as one of the government planning indicators.

Measures in the field of price setting could become the most fruitful of the energy conservation measures being worked out in the CEMA countries. The reform of wholesale prices in Hungary which took effect in January 1980 is of interest in this connection. With respect to the energy conservation problem, its essence is as follows. Wholesale prices of finished products are being reduced by an average of 8 percent, prices of fuels and materials are being raised an average of 15 percent, and those of fuels alone are being raised an average of 30 percent. Wholesale prices as a whole are at the same time being reduced 4 percent. Consequently, according to the calculations of Hungarian economists, the average profit in the industrial sector will drop from 15 to 6 percent of the residual value of fixed capital and working capital. At the same time, however, enterprises producing energy and materials must become highly profitable (with a profit up to 15 percent) and must get along entirely without government subsidies. Enterprises producing finished products, on the other hand, are to have a low rate of profit (in light industry, for example, profit is dropping to 2 percent of the residual value of fixed and working capital) and will thereby be faced with the need for strict conservation of energy and materials, which are becoming more expensive. It is assumed that over the first 5 years these enterprises will be receiving government subsidies. Moreover, to compensate for rising prices the charge on capital has been abolished in Hungary, and the tax on wages and social insurance has been cut in half. Thus government subsidies are being redistributed, and as a result efficiency should rise and there should be a substantial saving of materials and energy.

It is still early to speak about the effectiveness of this reform. There is no question that raising wholesale prices will yield definite results in combating the wasteful attitude toward energy. But this kind of "artificial" raising of the profit rate of the fuel and power industry, while that rate is at the same time being reduced in other industries, could, in our view, create the prerequisites for extensive growth of the fuel and power industry. As specific capital investments for energy consumption rise, this increase could be accompanied by a further rise in the share of the fuel and power industries in gross investments in the industrial sector. This tendency, as we have already said above, did exist previously (in Hungary 30 percent of capital investments in the industrial sector were spent for the fuel and power industry in the last 5-year period, and in the current one it is 43 percent) and was viewed as an adverse tendency. Moreover, in and of itself the new price system does not cover the entire problem of conservation, since modernization of energy-intensive manufacturing process is a principal method of conservation.

One of the important directions for energy conservation in the CEMA countries is reducing energy consumption for municipal services and the residential needs of the public. Measures in this field are divided into two groups according to their nature. The first group pertains to the sphere of activity of the construction industry, industries producing consumer goods and utilities and municipal services. These measures are aimed at improving thermal insulation of existing residential and public buildings and of those under construction, optimization of the use of heating and lighting systems and hot-water supply, establishment of standards governing the rate of energy consumption of household appliances and equipment produced, etc.

Certain steps have been taken along these lines in the CEMA countries in recent years. For example, in 1979 the time for lighting the streets was reduced and limits were set on electric power and fuel for residential buildings in Bulgaria; in Hungary, GDR and Romania the temperature limits were set for living, commercial and public space, hot-water temperature standards were introduced, etc. Moreover, in a majority of the European CEMA countries daylight saving time was introduced (moving activities up 1 hour from the beginning of April to the end of September), which, as experience has shown, makes it possible to save 12-15 percent of the electric power used for lighting; speed limits were set on motor traffic in the countries in order to save fuel, etc.

Yet "centralized" measures of this kind are inadequate to achieve a sizable saving of energy in the utility and residential sector of the CEMA countries. Every member of society must be aware of the need to optimize energy consumption in the household. That is why a second group of measures in this field is aimed at changing social psychology and the habits which the public has developed. But, as the experience of the CEMA countries demonstrates, use of the news media to popularize energy conservation in the household and also use of such new forms of educational effort as, say, organization of national competition for energy conservation and payment of money prizes to the winners,[8] is at present proving not to be effective enough for one reason or another.

Raising retail prices of certain types of energy carriers consumed in the household (mainly those of hydrocarbon origin) is seen as a more effective means of reducing household energy use in the CEMA countries. This was done in 1979 and 1980 in Bulgaria, Hungary, Romania and Czechoslovakia.

It is assumed that consumption of fuel and energy to meet the needs of the general public will be reduced as much as one-fifth by means of these measures in the CEMA countries. Various forms of compensation are being used in the CEMA countries so that these measures specifically promote energy conservation without affecting the level of real personal income. For instance, when rates were raised for gas, heating and electric power in Romania, the monthly wage of all workers was at the same time raised by 10-100 leus (depending on the number of children); in Czechoslovakia minimum amounts of pensions and other social security benefits and also family supplements were increased; in Hungary specific supplements were applied to wages and pensions in the amount of 140-180 forints per month, and so on.

In a number of cases the CEMA countries do not resort simply to raising the rates, but undertake to use a new procedure for collecting charges for sources of energy. We are referring to the transition from fixed monthly payments, raising which does not in practice promote conservation, to a charge that depends on the amount of energy consumed, which sharply enhances the motivation of every consumer to take a thrifty attitude toward energy. Implementing this principle necessitates installing in houses apparatus to monitor consumption, which involves rather sizable outlays by the government. Electric meters are now being used everywhere in the CEMA countries; as for meters measuring residential consumption of pipeline gas and especially hot water in water supply and heating systems, they do not exist everywhere. In Romania, for example, the decision to put into production, to manufacture and to introduce meters to measure consumption of thermal energy in households was adopted after the rates were raised--only in April 1980.[9] Their design, production, installation and the monitoring of their use require certain funds and organizational efforts and a rather lengthy period of time before this measure will begin to yield a benefit--a motivation to conserve thermal energy.

We should note that the potential for energy conservation is rather limited in the municipal service and residential sector.

We will indicate first of all the impossibility of repeated periodic performance of measures to reduce rates of energy consumption in the household. Such measures, by whatever methods they are carried out, are in practice exhausted once the optimum and scientifically sound specific rate of energy consumption for lighting, heating, hot-water supply and the like is attained.[10]

In addition, the relative share of the municipal service and residential sector in total energy consumption in the economy of the various CEMA countries varies a great deal, reflecting the peculiarities of the climate, the extent of urbanization, historical traditions, the standard of living that has been attained, and so on. In countries where this figure is low, the ultimate result of measures aimed at conservation of energy in the household is rather limited even if they are prepared and carried out with the greatest care. In Romania, for example, the share of the municipal service and residential sector in total energy consumption is only

8-9 percent, and the assumed saving--one-fifth of that amount--will make it possible to reduce total energy consumption in the country by only 1.5-2 percent. On the other hand, Romanian industry consumes about 85 percent of all energy, and it is clear that the principal potential exists in this sector.

Finally, regulating the level of energy consumption in the household must take into account that a further rise in the standard of living of the population of the CEMA countries will be accompanied by an increase in the housing stock, a rise in the supply of household appliances and equipment, more privately owned means of transportation, comprehensive development of the consumer service sphere, etc. All of this will naturally involve increased energy consumption in this sector.

In other sectors of the economy, above all in industry and transportation, these limiting factors are absent, and the possibilities for reducing energy intensiveness are far broader. That is why the principal directions for energy consumption in the CEMA countries are speeding up the process of modernization of production in order to introduce energy-saving technologies, machines and equipment, and also further improvement of planning, of management and of the economic mechanism in order to reduce energy consumption in production.

In conclusion we should emphasize the more general aspect that is associated with the problem of energy conservation. Against the background of the worldwide trend toward exhaustion of energy sources now being used, no conservation measures--on whatever scale they are carried out--can yield a definitive solution to the problem of energy sufficiency over the long run, since all the will in the world cannot reduce energy consumption to zero. Consequently, conservation ensures only a more or less sizable gain in terms of time, thereby facilitating the transition to new forms of energy resources and to new technologies for their consumption. The principal task that now faces the CEMA countries in the energy field is to take advantage of that time to restructure the fuel and energy complex.

FOOTNOTES

1. For instance, in Poland in the 1976-1980 period 22.5 percent more than planned was allocated to mining (34 billion zlotys).

2. In the current 5-year period the CEMA countries are receiving from the Soviet Union approximately 364 million tons of petroleum, 90 billion cubic meters of gas, and 67 billion kilowatt-hours of electric power. We should emphasize that energy carriers from the USSR are being delivered to the European socialist countries on preferential terms: the price of petroleum on the market of the CEMA countries is now approximately 25-30 percent below the level of world prices.

3. Evaluating this experience and the possibility of using it, we should take into account that unlike the other CEMA countries, the GDR has a potential for reduction of energy intensiveness that is being worked on at a fast pace; it consists of converting a portion of the chemical industry from brown coal to petroleum, which requires smaller inputs of energy. The other CEMA countries develop their chemical industry on the basis of petroleum from the very outset.

4. For instance, in the GDR a 6-6.3-percent annual growth of industrial output at the present level of supply of those sources of energy, raw materials and supplies which are most important from the economic standpoint requires that their specific consumption be reduced by 2.8-3 percent per year on the average (see "IX s"yezd Sotsialisticheskoy yedinoy partii Germanii" [Ninth Congress of the Socialist Unity Party of Germany], Politizdat, 1977, p 50).

5. NOWE DROGI, No 3, 1980, p 61.

6. In the European part of the USSR, for example, capital outlays for the extraction, enrichment and shipment of fuel are 60-75 rubles per ton of standard fuel according to design computations, whereas measures for fuel conservation require capital investments amounting to 35 rubles per ton of standard fuel in ferrous metallurgy, 20-25 rubles per ton of standard fuel in nonferrous metallurgy and petroleum refining, and so on.

7. In Hungary, for example, the pool of government motor vehicles attached to enterprises and institutions was reduced by 40 percent in the 1973-1979 period and is to drop another 15 percent by the end of 1980.

8. Such competitions were conducted in Bulgaria in 1975.

9. SCINTEIA, 4 April 1980.

10. Carrying out energy conservation measures in the household may also involve unexpected side effects. In the United States, for example, lowering the air temperature in the household and in public buildings, which resulted from higher prices of energy carriers, led to a sharp increase in the demand for woolen articles, warm underwear, and so on, during the winter of 1979.



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